2. Of the experimental plants, Group (a) i and ii, were still alive, i living now without a host.
3. Group (b) i. One plant had died from unknown causes, but the second plant of this group was now easily the largest of all the plants and had never had a host or other plant growing in the same pot.
4. Group (b) ii. This had not been successful. One plant had been killed by insects, and one had grown in shavings until late December, but had finally died in hydroponics in February.
5. Another plant of the (b) ii series had been grown in media and finally with a Eucalypt as related above. This did not die naturally but was considered to be dying of iron lack when its root system was examined.
6. The fourth plant of the (b) ii group was still alive but was the smallest of all the surviving plants, after being in shavings, then with an Acacia which died (presumably because of the effect of the *Nuytsia)* and then finally in sand.

CONCLUSION.

As far as the restricted aim of the trial goes, the experiment was a success and it seems that root growth as a result of hormone action is capable of sustaining the plant in a normal environment. Further more extensive trials are required to demonstrate this conclusively. Also a close microscopic study of root formation before and after treatment will be necessary before a more definite statement can be made.

Other results are that after treated plants have commenced root growth they are extremely hardy and will successfully resist many changes of environment. Also host plants are not essential. The plant in group (b) i was outstandingly successful and had no host. Even plants which had an opportunity of getting hosts and supposedly killed them showed no particular gain when they were parasites, nor any particular retardation when deprived of the supposed host. It thus appears that, given the opportunity, *Nuytsia* will become parasitic but deprived of this, it is capable of normal green plant nutrition.

REFERENCE.

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FLYING FOXES IN WESTERN AUSTRALIA

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When Captain Cook laid up his ship for repairs at the mouth of a river he subsequently named the Endeavour, in the north of Queensland, one of the crew who had wandered inland, reported that he had seen a curious and fearsome beast which he thought

might be the devil and which shuffled off through the long grass much to his relief. This was in the year 1770, and constitutes the first recorded observation of a Flying Fox in Australia. These curious animals, however, were not unknown as they had previously been noted in the French islands of the Indian Ocean.

At the present day four common species are known to inhabit Australia, and make their headquarters for the most part, in Queensland. Their only resemblance to a fox is in their pointed faces, and to a smaller extent in the colour of the fur with which their bodies are clothed. Had the exploring sailor examined the individual he found a little nearer, he could not have failed to notice the membranous wings and to have recognised its resemblance to a bat, despite its large size. Flying Foxes are merely very large bats, of the family Pteropodidae. It is now well-known that they are vegetarians and are perfectly harmless, in a direct sense, to human beings or animals wild or domesticated. At certain times of the year they migrate south, their movements being guided by the flowering of eucalypts and other trees.

They are found in what are termed "camps" in the coastal mangrove thickets and further inland in the wetter parts of Queensland. When a vast host moves to the south to what may be a fruit-growing district its arrival is naturally looked upon with dismay and anxiety. Ultimately Government was appealed to and in the years 1929 to 1931 Mr. Francis Ratcliffe, a naturalist from Oxford, was engaged to visit their northern haunts to ascertain the extent of their numbers and to suggest any effective measure of control. After sending in his official report, published as C.S.I.R. Bulletin No. 53, 1931, he wrote a very delightful and instructive book, "Flying Fox and Drifting Sand," detailing not only his experience with foxes, but including a chapter devoted to birds, and to his contact with some very humorous Australians of the genus *Homo* who guided him to the various camps he examined.

He studied the following four species of Flying Foxes: the Grey-headed Fox *(Pteropus poliocephalus)*, the largest of all, with a wing expanse of up to five feet; the Spectacled *(Pt. conspicillatus)*; the Black *(Pt. gouldii)*, probably the sailor's devil, and the Little Red Flying Fox *(Pt. scapulatus)*. Of these only the latter two are found in this State, the Black being confined to the Kimberley Division, but the Little Red, the only one which I have personally met with, extends into the north-west.

Mr. Ratcliffe was greatly impressed with the enormous numbers comprising these camps. One he visited he estimates, after patiently watching the host on its nightly foraging expeditions, at half a million individuals. The descent of a detachment of such a host on to fruit orchard may well cause alarm and dismay.

My first experience with the Little Red Flying Fox was in October, 1917. I was at Cossack on my way to the Dampier Archipelago on behalf of the late Mr. H. L. White of Belltrees, N.S.W., to examine and collect a few specimens of birds and their eggs

found on the various islands. I had a few days to spare till a sailing boat I had hired was ready, and I occupied them in looking round the old port. On October 17, the notes of a little bird in the mangroves growing on an island in the wide creek attracted my attention, so procuring a small boat I rowed over to the so-called "Vampire" Island. I had previously noted some tall date palms and on inquiring if they bore any ripe fruit was told that they might do if the "vampires" would permit it. After clearing up the question of the identity of the bird uttering the familiar notes I turned my attention to the "vampires". I soon found them. A few of the tallest mangroves were draped with Little Red Foxes hanging in the usual bat-like inverted position. Beyond inducing some of them to fly, I did not disturb them. It was only a small colony and I do not think there were more than 50 individuals in the clump of accessible mangroves. Across a very muddy and deep creek, where the mangroves were larger and denser, there may have been others. I never saw other camps or even individuals in what is called the north-west proper, but was told they occasionally visited Millstream Station, where a few banana trees were growing in the garden. Millstream is on the Forteseue River about 70 miles south of Roebourne.

My further experience of the Little Red Fox occurred some years afterwards, in 1924. I was visiting the "Crossing", some 140 miles inland from Derby, where the big Fitzroy River is unfordable during the rainy season. On one occasion I was camped by the river, some miles to the south of the bush hotel I had made my headquarters. Not feeling very well I was reclining against a convenient sloping sandbank at dusk. It was moonlight and presently I noticed one or two of these huge bats flitting by. Some weeks later I moved my camp to a small tributary of the river. Quite close to my pitch were two flourishing Cajuput trees *(Melaleuca leucadendron)* in full flower. My first night at this pitch revealed the presence in some numbers of Flying Foxes. They arrived just after sunset and made sleep an impossibility until they tired me out. As soon as they commenced feeding, their shrill squeaking and querulous noises were incessant. Once or twice during the night I would hear a dull thud. At daybreak next morning I would find the dead body of one of the visitors as well as a litter of broken blossoms. Mr. Ratcliffe states that their method of feeding appears to consist of drawing the sprays of blossom through their jaws to extract the honey they contain. This may be so, but no doubt a quantity of the blossom itself is swallowed during the operation. The bodies I examined had a strong smell which I can only describe as something between overripe cheese and stale fish. Once or twice I noticed a single individual hanging from the slender branches of the tree. In the day time the nearby trees were swarming with honey-eating birds —Meliphagidae and others. The camp from whence these parties came was half a mile away upstream. I do not think it contained more than 200 individuals.